

WHAT IS CLAIMED IS:

1. A printing apparatus for printing an image on a printing medium using a print head, comprising:

5 a transporting means for transporting said printing medium in a predetermined direction;

a printing medium detecting means including a detection lever that is provided upstream of said print head in said predetermined direction and that mechanically operates when  
10 a rear end of said printing medium passes therethrough and a sensor for detecting the mechanical operation of said detection lever;

an acceleration acquiring means for acquiring an acceleration of said printing medium when said rear end  
15 of said printing medium passes through said detection lever; and

a correcting means for correcting a transportation amount of said printing medium during a physical return time after said rear end of said printing medium passes  
20 through said detection lever until said detection lever is detected by said sensor, in accordance with said acceleration of said printing medium acquired by said acceleration acquiring means; and

a remaining region control means for controlling a  
25 remaining region from a printing position of the print head up to said rear end of said printing medium in accordance with said transportation amount corrected by said

correcting means.

2. A printing apparatus according to Claim 1, further comprising a velocity acquiring means for acquiring a  
5 velocity of said printing medium when said rear end of said printing medium passes through said detection lever, and wherein said correcting means determines said transportation amount of said printing medium during said physical return time, in accordance with said acceleration  
10 acquired by said acceleration acquiring means and said velocity acquired by said velocity acquiring means.

3. A printing apparatus according to Claim 2, wherein said acceleration acquiring means acquires said  
15 acceleration from a previous instruction velocity to said transporting means and a current instruction velocity to said transporting means and wherein said velocity acquiring means acquires said current instruction velocity as said velocity of said printing medium.

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4. A printing apparatus for printing an image on a printing medium using a print head, comprising:

a transporting means for transporting said printing medium in a predetermined direction;

25 a printing medium detecting means including a detection lever that is provided upstream of said print head in said predetermined direction and that mechanically operates when

a rear end of said printing medium passes therethrough and a sensor for detecting the mechanical operation of said detection lever;

a table for controlling said transporting means, said  
5 table providing a plurality of relationships between a target velocity of said printing medium transported by said transporting means and a correction amount for said rear end of said printing medium;

a storage means for storing said table for controlling  
10 said transporting means;

a velocity acquiring means for acquiring a velocity of said printing medium when said rear end of said printing medium passes through said detection lever; and

a remaining region control means reading out said  
15 correction amount for said rear end of said printing medium corresponding to said velocity acquired by said velocity acquiring means from said table and controlling a remaining region from a printing position of said print head up to said rear end of said printing medium, in accordance with  
20 said correction amount read out from said table.

5. A printing apparatus according to Claim 4, wherein said correction amount for said rear end of said printing medium provided by said table for controlling said  
25 transporting means is a transportation amount of said printing medium during a physical return time after said rear end of said printing medium passes through said

detection lever until said detection lever is detected by said sensor.

6. A method for printing an image by ejecting ink from  
5 a print head onto a printing medium transported in a  
predetermined direction by a transporting means, said  
method comprising the steps of:

(a) providing a detection lever that mechanically  
operates when a rear end of said printing medium passes  
10 therethrough and a sensor for detecting the mechanical  
operation of said detection lever on upstream of said print  
head in said predetermined direction;

(b) acquiring an acceleration of said printing medium  
when said rear end of said printing medium passes through  
15 said detection lever;

(c) correcting a transportation amount of said printing  
medium during a physical return time after said rear end  
of said printing medium passes through said detection lever  
until said detection lever is detected by said sensor, in  
20 accordance with said acceleration of said printing medium  
acquired in said step (b); and

(d) controlling a remaining region from a printing  
position of said print head up to said rear end of said  
printing medium in accordance with said transportation  
25 amount corrected in said step (c).

7. A method according to Claim 6, further comprising

a step of:

(b') acquiring a velocity of said printing medium when said rear end of said printing medium passes through said detection lever, and wherein said step (c) includes  
5 determining said transportation amount of said printing medium during said physical return time, in accordance with said acceleration acquired in said step (b) and said velocity acquired in said step (b').

10 8. A method according to Claim 7, wherein said step (b) includes acquiring said acceleration from a previous instruction velocity of to said transporting means and a current instruction velocity to said transporting means, and wherein said step (b') includes acquiring said current  
15 instruction velocity as said velocity of said printing medium.

9. A method for printing an image by ejecting ink from a print head onto a printing medium transported in a  
20 predetermined direction by a transporting means, said method comprising the steps of:

(a) providing a detection lever that mechanically operates when a rear end of said printing medium passes therethrough and a sensor for detecting the mechanical  
25 operation of the said lever on upstream side of said print head in said predetermined direction;

(b) storing a table for controlling said transporting

means in a storage unit, said table providing a plurality of relationships between a target velocity of said printing medium transported by said transporting means and a correction amount for said rear end of said printing medium;

5       (c) acquiring a velocity of said printing medium when said rear end of said printing medium passes through said detection lever; and

10       (d) reading out said correction amount for said rear end of said printing medium corresponding to said velocity acquired in said step (c) from said table and controlling a remaining region from a printing position of said print head up to said rear end of said printing medium, in accordance with said correction amount read out from said table.

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10. A method according to Claim 9, wherein said correction amount for said rear end of said printing medium provided by said table for controlling said transporting means is a transportation amount of said printing medium during a physical return time after said rear end of said printing medium passes through said detection lever until said detection lever is detected by said sensor.

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